Supplemental info on EPA Region 9 priorities in the Bay Delta Estuary

1. Water quality monitoring and assessment

There is widespread recognition for the need to improve monitoring and assessment to help guide decision making. Much monitoring is done in the Estuary but its usefulness would improve by closer coordination, improved data management integration of data to produce more robust water quality assessments, and modeling tools to apply information to decision-making. Additional monitoring is necessary to fill data gaps, including those identified through the Pelagic Organism Decline (POD) studies. At a minimum,

Several parties are currently developing strategies to enhance water quality monitoring in the Central Valley, geographically focused on the Sacramento, the Delta and the San Joaquin. EPA has led the effort in the San Joaquin Basin and cooperated on the Sacramento and Delta efforts. Developing a long-term ongoing funding mechanism to support a wide range of monitoring, assessment and research is a hurdle in successfully establishing these regional monitoring programs, though there are models elsewhere in California for how this can be done. EPA will assist in the implementation of these strategies by providing technical assistance and start-up funding.

Priority activities include:

- Establish a San Joaquin regional monitoring program that is linked with similar Delta and Sacramento efforts, as well as with the San Joaquin River Restoration Program.
- Establish a process for ongoing stakeholder oversight and for public input to define common management objectives.
- Convene a San Joaquin water quality conference to help focus monitoring activities on common management objectives.
- Identify data gaps and ways to fill those gaps. At a minimum, ensure data is adequate to: determine whether impaired waters are being restored; assess BDCP conveyance alternatives; and monitor the water quality impacts of San Joaquin River restoration
- Develop water quality performance measures, building on those developed by the CalFed Bay Delta Program as well as EPA's Office of Water Strategic Plan.
- Produce a State of the Delta Watershed Water Quality Assessment Report.
- Further develop data management infrastructure, building on the work of State Water Ambient Monitoring Program and the Interagency Ecological Program.

2. Water quality restoration for all beneficial uses

Much of California's drinking water and agricultural water supply comes through the Delta. Fish that inhabit or migrate through the Delta also are impacted by its water quality. EPA supports the State in implementing the Clean Water Act and Safe Drinking Water Act, especially permitting, TMDLs and water quality standards. These core water quality programs need to be enhanced. EPA will ensure state of the science water quality standards are in place to drive water quality restoration.

Priority activities include:

- Convene a facilitated science process to assess the effectiveness of current water quality standards and develop revisions as deemed necessary, in partnership with the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board.
- Ensure that water quality standards and TMDLs complement relevant Biological Opinions and further the goals of the San Joaquin River Restoration Program.
- Support the State in the development of the Central Valley Drinking Water Policy, which is a unique attempt to integrate the Safe Drinking Water Act's source water protection approach with the Clean Water Act's surface water quality standards program towards the goal of protecting and improving Delta drinking water quality.
- Provide additional support to the Water Board and local stakeholders to develop TMDLs, as well as comprehensive watershed plans to successfully implement those TMDLs. Priority TMDLs include Delta mercury, pesticides throughout the Central valley, and San Joaquin salinity and selenium.
- Follow-up on water quality-related findings from the POD studies and/or the CalFed Science program to ensure appropriate remedies are implemented (i.e., ammonia, mycrocystis).

Specifically with respect to agriculture, the extensive agriculture operations within the Central Valley are increasingly being expected to address a wide range of water quality issues. The Central Valley Regional Water Quality Control Board (CVRWQCB) has implemented a unique regulatory program for irrigated agriculture that could serve as a national model to better address problems associated with agricultural discharges. In addition, EPA has been collaborating to help growers achieve progress toward ecologically sound agriculture and regulatory compliance. EPA will work with the CVRWQCB to enhance the implementation of the irrigated lands program and to provide assistance to agriculture to foster environmental stewardship (e.g., compliance assistance).

Priority activities include:

- Develop pesticide water quality criteria for both acute and chronic levels of protection
- Develop pollutant watershed models to predict pesticide impacts on water quality and determine most effective location, timing and type of BMPs.
- Assist growers in promoting environmental stewardship to demonstrate new practices to reduce leading pollutants.
- Demonstrate comprehensive system for dairy waste disposal to limit air and water impacts.

3. Science

There has been extensive study over the last several years to determine the causes of the Delta ecosystem collapse (i.e., Pelagic Organism Decline, or POD). Through this work, several water quality issues have been identified but not yet fully pursued. In addition, there has not been enough scientific study to prepare for the challenges that are anticipated in the Delta ecosystem, specifically climate change impacts and future invasive species.

Priority activities include:

- Assess the role of selenium toxicity and reproduction effects on aquatic and aquatic dependant life in the delta.
- Assess the role of nutrients (and interaction with managed flows) in promoting blue-green algal blooms and other noxious invasive species.
- Assess the role of agricultural chemicals and nuisance weed management chemicals in promoting blue-green algal blooms.
- Assess indirect toxicity effects of blue-green algae through food chain on sport fish as well as pelagic species and the likely human impacts of consumption.
- Assess the incidence, causes and population level effects of endocrine disruptive contaminants on fish.
- Predict and prepare for the impacts of climate change on the Bay-Delta ecosystem and its critical species.
- Anticipate likely invasive species and determine how best to minimize and adapt to their introduction.

4. Sustainable water resources

As a cooperating agency on the BDCP, EPA will ensure proposed changes to water operations and conveyance fully consider water quality. We will promote sustainable infrastructure, including water and energy efficiency and green infrastructure, using various tools, including stormwater and 404 permitting, the SRFs, and ARRA, as well a participating on the State's AB32 water-energy workgroup. We will also assist in climate change adaptation planning, including supporting the Climate Ready Estuary Pilot in SF Bay.

5. Collaboration and partnerships

EPA will participate in appropriate forums (CalFed, ClubFed, SFEP, BDCP, IRWMPs) to ensure water quality is considered in decision-making and government activities are coordinated for best overall result.

EPA will increase direct support for the San Francisco Estuary Partnership (SFEP) to facilitate implementation of the Comprehensive Conservation and Management Plan. A federal-state-local partnership, SFEP is one of 28 National Estuary Programs throughout the United States that were established under the Clean Water Act. The San Francisco Bay-Delta Estuary is the largest estuary on the West Coast, yet the NEP established in 1987 has yet to receive enhanced federal support that has benefited other NEPs (e.g., Puget Sound, Chesapeake, Long Island Sound).

The State's Integrated Regional Water Management Program (IRWMP) provides a valuable forum (and state funding) to work with local entities in managing water resources most effectively to address issues and meet water supply needs.